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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,616	12/16/2003	Byoung Hwa Lee	2336-232	2727
22429	7590	02/09/2005	EXAMINER	
LOWE HAUPTMAN GILMAN AND BERNER, LLP			HAM, SEUNGSOOK	
1700 DIAGONAL ROAD				
SUITE 300 /310			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	
			2817	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,616	LEE ET AL.	
	Examiner	Art Unit	
	Seungsook Ham	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the abstract is too long. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, line 14, "the capacitor electrode" is confusing as to which capacitor electrode refers to (see "a capacitor electrode" recited in lines 9 and 13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheen (US '666) in view of Takada et al. (US '452).

Sheen (figs. 23A-24) discloses a laminated low pass filter comprising: a dielectric block including a plurality of laminated dielectric layers, input and output electrodes 209, 210; a transmission line made of a meander-shaped strip line 211 formed on a first one 205 of the dielectric layers and connected to the input and output electrodes; a first capacitor electrode 212 formed on a second one 207 of the dielectric layers; a second capacitor electrode 213 formed on a third one 208 of the dielectric layers such that a predetermined capacitance is formed between the first and second capacitor electrodes (see fig. 23A); first and second ground electrodes 201, 202 are disposed in first and second ground layers 204, 206, respectively; and a third ground electrode 203 is provided beneath the third dielectric layer.

Sheen does not show outer ground electrodes and a third ground layer (see claim 3) for the third ground electrode. Although Sheen does not show outer ground electrodes on the side surfaces, it would have been obvious to provide outer ground electrodes to connected the first, second and third ground electrodes. Moreover, providing a grounding layer for the third ground electrode is also well known in the art.

Takada et al. (figs. 1 and 2) discloses a similar laminated low pass filter having outer ground electrodes Pg for connecting a plurality of ground electrodes 14a, 14b. Moreover, Takeda et al. shows a bottom ground electrode 14b disposed on a ground layer 11g.

It would have been obvious to one of ordinary skill in the art to provide outer ground electrodes in the device of Sheen to connect the first, second and

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ground electrodes since such design technique is well known in the art as shown by Takeda et al. (see fig. 1). Moreover, it would have been obvious to provide a third ground layer to support the third ground electrode in the device of Sheen since such design technique is also well known in the art as shown by Takeda et al. (see fig. 2).

Regarding claims 4-6, the modified device of Sheen does not show a second capacitor electrode comprised of two separate electrode and a third capacitor electrode formed beneath the second capacitor electrode. However, such laminated capacitor structure is well known in the art. Takeda et al. (fig. 5) shows first, second and third capacitor electrodes 53b, 53c & 53d, 53a disposed in separate dielectric layers and the second electrode comprised of two separate electrodes 53c, 53d (note that the order of capacitor electrodes 53b and 53c&53d can be alternately switched since such modification does not alter the characteristic of the low pass filter).

It would have been obvious to one of ordinary skill in the art to use the laminated capacitor electrode structure of Takeda et al. as the capacitor electrode structure in the modified device of Sheen since the capacitor structure (207, 212, 213, 208) of Sheen is functionally equivalent to the capacitor structure of Takeda et al.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheen (US '666) in view of Takada et al. (US '452) as applied to claim 1 above, and further in view of Carlson et al. (US '579).

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The modified device of Sheen does not show the transmission line forms a stepped strip line. However, such stepped strip line is well known in the art. Carlson et al. (fig. 1) discloses a conventional stepped strip line and also teaches that sharp resonances can be produced by the stepped strip line structure (col. 3, lines 23-42). Therefore, it would have been obvious to provide a stepped strip line as the transmission line in the device of Sheen since stepped strip line is well known in the art and to obtain a desired frequency response as taught by Carlson et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kariya et al. (US '812) discloses a conventional laminated low-pass filter; and

Furutani et al. (US '511) and Tonegawa et al. (US '227) disclose a laminated low-pass filter comprised of transmission lines and capacitor electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham
Primary Examiner
Art Unit 2817

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